

12 For this reason, the polishing material is intruded into the space (5 to 6 μ m) between the array substrate 10 and the opposing substrate 11, thereby causing failures due to this foreign matter, which lowers the display quality and yield of the liquid-crystal display elements.

Please delete the paragraph beginning on page 2, line 10 and replace with the following:

13 In this type of technology, because the overall liquid-crystal display element area is surrounded by an outer peripheral seal 18, in the above-noted case of performing polishing, intrusion of foreign matter into the space (5 to 6 μ m) between the array substrate 10 and the opposing substrate 11 is prevented.

Please delete the paragraph beginning on page 2, line 18 and replace with the following:

14 For this reason, because the stress on the pair of glass substrates is different between a part at which the outer peripheral seal 18 is cut and a part at which the outer peripheral seal 18 is not cut, improper cutting results when scribing and breaking the substrates.

Please delete the paragraph beginning on page 2, line 25 and replace with the following:

15 If the manufacturing apparatus becomes contaminated in this manner, polishing material can intrude into the liquid-crystal display element when the liquid crystal is injected, leading to improper liquid crystal orientation and faulty operation, such as the proper voltage not being applied across the liquid crystal, thereby causing a display failure and a drop in yield.

Please delete the paragraph beginning on page 3, line 9 and replace with the following:

16 Specifically, in a liquid-crystal display element according to one aspect of the present invention, an array substrate on which a plurality of liquid-crystal injection areas are arranged and each liquid-crystal injection area is surrounded by a seal having

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an aperture and the overall liquid-crystal injection areas being surrounded by an outer peripheral seal having an aperture, and an opposing substrate are adhered together, the aperture of the outer peripheral seal being sealed by a hole sealant, and a surface of at least one of the array substrate and the opposing substrate being polished with a polishing material, and thereafter, an end portion of at least either one of the array substrate and the opposing substrate being polished with end polishing operation so as to remove residual polishing material therefrom, after which cutting plurality of liquid-crystal injection areas along lines as formed between the opposite the aperture holes so as to separate individual liquid crystal injection areas.

Please delete the paragraph beginning on page 3, line 27 and replace with the following:

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In this aspect of the present invention, it is possible to inject liquid crystal into each individual injection area, seal the areas, and adhere polarizers after the individual liquid crystal injection areas are separated.

Please delete the paragraph beginning on page 6, line 14 and replace with the following:

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Spacers 14 (only one of which is shown) are disposed between the array substrate 10 and the opposing substrate 11 so as to maintain a uniform panel gap therebetween.

Please delete the paragraph beginning on page 7, line 4 and replace with the following:

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Next, after hole sealing so that polishing material is not introduced between the array substrate 10 and the opposing substrate 11, which are two glass substrates, the surface of at least one of the glass substrates is polished, and then the end surface is also polished, so as to make the thickness of the two glass substrates small (steps 202 to 204).

Please delete the paragraph beginning on page 7, line 22 and replace with the following:

AW The array substrate 10 and the opposing substrate 11, onto which is distributed the spacers 14, which maintain the panel gap uniformly, are adhered by heat treating at a temperature of 160°C, so as to harden the seal 12 and the outer peripheral seal 18.

Please delete the paragraph beginning on page 8, line 29 and replace with the following:

AW Also prevented are problems such as polishing material 21 being intruding between the glass substrates (Fig. 1) so as to cause poor orientation or prevent proper application of voltage across the liquid crystal 15.

Please delete the paragraph beginning on page 9, line 3 and replace with the following:

AW When the cutting apart is done, the hole sealant 20 on the line along the cutting line B-B' of Fig. 3 is traversed in making the cut. Because the hole sealant 20, in contrast to the epoxy resin used in the outer peripheral seal 18, is a soft acrylic resin, there is no particular stress applied to the glass substrates when the cutting is done, so that undesirable scribing and breaking are prevented.

Please delete the paragraph beginning on page 9, line 9 and replace with the following:

AW In this embodiment of the present invention, therefore, each liquid-crystal injection area is surrounded by a seal 12, and the overall liquid-crystal injection area is surrounded by an array substrate 10 and an opposing substrate 11 surrounded by an outer peripheral seal 18 having apertures 19. The apertures 19 of the outer peripheral seal 18 are sealed by a hole sealant 20, and the surface of at least one of the array substrate 10 and the opposing substrate 11 are polished with a polishing material 21, which is then removed, after which cutting along the apertures is done to separate the individual liquid-crystal injection areas. Using this method one eliminates residual polishing material 21 caused by bad cutting, thereby facilitating the achievement of a thin liquid-crystal display element and improving the yield and the quality thereof.

Please delete the paragraph beginning on page 9, line 21 and replace with the following:

Although the above-noted embodiment of the present invention was described for the example in which the thicknesses of the array substrate 10 and opposing substrate 11, which are glass substrates, is made thin by polishing, it will be readily understood that the present invention is not restricted in this manner, and can be applied as well to a case in which, for example, the thickness of the array substrate 10 and the opposing substrate 11 is made thin by etching.

Please delete the paragraph beginning on page 10, line 6 and replace with the following:

In this embodiment, a liquid-crystal display element array is provided and as shown in Fig. 3, the liquid-crystal display element array of this embodiment comprises an array substrate 10 and an opposing substrate 11 and a plurality of liquid-crystal injection areas 30, each being surrounded by a seal 12 having an aperture 17 and the an overall liquid-crystal injection areas 30 being further surrounded by an outer peripheral seal 18 having apertures 19 sealed with a hole sealant 20, both of which being formed between the array substrate 10 and the opposing substrate 11, wherein at least a surface of either one of the array substrate and the opposing substrate is polished and at least an end portion of either one of the array substrate and the opposing substrate is polished, and further wherein a plurality of the apertures 19 are provided along each one of the outer peripheral seals 18-1 to 18-4 and at crossing points P each being formed between the outer peripheral seal 18 and a virtual line 40 along which the individual liquid-crystal injection areas 30 would thereafter be cut apart.

Please delete the paragraph beginning on page 10, line 21 and replace with the following:

In this embodiment, the end portion of either one of the array substrate and the opposing substrate has a tapered configuration.

In the Claims: